

Eskridge (J. T.)

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A Clinical Lecture delivered at the Arapahoe County Hospital, Oct. 29th, 1892.

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Stenographically Reported by Miss Lottie M. Page.

Gentlemen:—

I wish to bring this case before you to-day as it illustrates a condition of especial interest, although not an infrequent disease.

Mary B., æt. 28, German, in Colorado eight years, was admitted into the hospital in February, 1891. Family history unimportant, with the exception of a tendency to nervousness of all the members of the family. Up to her twenty-first year she had never complained of anything except flushing of the face and occasional dizziness. In 1883, or when twenty-one years of age, she was married and became pregnant shortly after. At the fifth month of gestation she received a blow on the head, which rendered her partially unconscious at the time. From the effects of this accident she aborted a few hours later. After this she enjoyed fair health, although weak, for the next two years. Husband died in February of 1887. Shortly after this she was ill for some weeks in St. Joseph's Hospital, of this city. She suffered with pain in the head and loss of memory. Illness lasted about eight or nine weeks. She was married the second time in August, 1888. In the early part of 1889 she was delirious, persecuted with imaginary enemies, who pursued her with intent to kill. She suffered with severe headache, with stiffness of neck and back; the arms and knees were weak. She thinks her feet were swollen and she was unconscious part of the time. Early in May, 1889, she began to have some trouble in walking and suf-

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ferred with pain in the back. These symptoms developed soon after the receipt of blows to the spine. I saw her in August, of that year, in consultation with Dr. Martin. There was present decided ataxic symptoms in the legs, with great increase of the deep reflexes, weakness of the leg muscles, paresis of the bladder, and areas of anesthesia in the legs and around the external genitalia and anus. She complained of pain in the spine but there was little or no tenderness on pressure over the spines of the vertebræ. Anti-syphilitic treatment was recommended, and she improved considerably for a number of months. In a month or two after beginning treatment the worst of her symptoms disappeared, and she ceased to take the medicine. Shortly after this, the spinal cord symptoms returned, but she was able to walk until September, 1890, when paralysis suddenly deepened after a fall on the spine. I saw her again in January, 1891, in consultation with Dr. M. Baker. She was at that time totally paralyzed in the legs. There were rigid contractures of the flexor muscles of the legs, incontinence of urine and feces, and a sacral bed sore, exposing the muscles, and reaching almost to the bone. The bed sore was about six or eight inches in diameter. There was entire loss of all forms of sensation in the legs and in the body up to the lower dorsal region. She was admitted into the hospital a few weeks later, on February 12th 1891. From that time she gradually improved until October, 1891, at which time sensation had returned in the legs, bed sores had almost completely healed, muscular rigidity had greatly lessened and she was able to move one leg at a time, but at that time she was not able to move both legs at the same time, or bear her weight on her legs, even when supported by attendants. During the last two or three months she has suffered with considerable pain around the waist and on a level with the umbilical region, and of late has complained of considerable pain in the region of the bladder. She frequently experiences a sensation as if the pelvic organs were being pushed out of her. She still experiences sensations of rush of blood to the head. Her memory is poor and uncertain, but her mind seems to be fairly clear. Paresis of the bladder still persists.

Condition, January 17th 1892: She lies in bed with left leg extended, the right one partially flexed at the knee. Both feet are extended and plantar flexed. Occasionally the muscles of the legs jerk. She is able to slightly flex the right leg at the knee, but this gives rise to considerable pain. The left leg is moved much more freely than the right, and the effort is painless. She moves the left foot fairly well, but she can only move the great toe of the right foot dorsally. The whole foot can be slightly plantar flexed. Knee-jerks; R. tetanic; L. same. Directly striking the patella gives rise to a smart contraction of each rectus muscle of the thigh. Front tap, contractions well marked. Ankle clonus well developed. Plantar reflexes: R. greatly exaggerated; L. less than normal. Abdominal reflexes; absent. Reflexes of fore-arms, increased; of the upper arm, nearly normal. Iritic reflexes, present and normal; the pupils equal in size. Accommodation perfect. Dynamometer: R. 80; L. 82. There is no special tenderness over the spines of the vertebrae. Sense of touch is present throughout the legs but somewhat perverted. Spots of partial anesthesia are found on the right foot, and areas of hyperesthesia are found on either leg. Pain sense is present. Muscular sense is perverted, but not absent. Temperature sense present, but lessened and slightly perverted.

Let us go over her present condition. I will call your attention first to the position of the limbs. There are slight contractures here. The foot is thrown forward. It is much more marked here than it is in cases that are more acute. There are slight contractures of the flexor muscles of the legs at the knees. You see the tremor in the muscles of the leg. This is partly caused by her nervous condition, but mainly by the irritable condition of the spinal cord. She is now able to bear her weight on her feet. The knee-jerks are enormously increased; sometimes on testing for them the rectus femoris muscle is thrown into a clonic contraction which keeps up several seconds. The left knee-jerk is greater than the right. Ankle clonus is present on each side. Plantar reflexes: R. present; L. slight. The grasp of the hand is exceedingly good. Deep reflexes of the arms: R. about normal; L. increased. Masseter reflex is absent. A feather

is not felt in contact, but in motion it is felt on either foot, but on the opposite foot to the one that is touched. This is what is termed *allocheiria*. Above the ankle a feather in contact can be felt, and below the ankle only a feather in motion can be felt. Sense of touch is perfect above the ankles and only slightly perverted below. It is perfect in the hands. There is an area on the left foot where cold substances are not felt. Pressure sense is present and normal. Localization sense is perverted. Muscular sense is present in hands but absent in feet. Pain sense is perfect.

What have we here? It would hardly be necessary to go into a consideration, in the diagnosis, of the exclusion of a brain difficulty, were it not that I have a case in the hospital now of double brain lesion that simulates in many particulars a spinal lesion. But there are certain characteristics even in that, that would enable us to diagnosticate a brain lesion, and there are certain conditions here that will enable us to exclude a brain lesion in the diagnosis. In the first place the patient has no sensory or motor symptoms, since coming into the hospital, above the umbilicus; the arms and face have escaped. In all cases of paraplegia, with symptoms limited to the parts below the umbilicus, a brain lesion may be excluded.

There are several other diseases with which it might be confounded. Is it multiple neuritis? Not infrequently in certain cases of chronic alcoholism, we have cases of multiple neuritis which are much more marked in the lower extremities than in the upper, so much so that the condition of the upper extremities may be overlooked. Multiple neuritis, whether it is limited to one portion of the body or the other, as a rule is symmetrical, usually limited to the distal portion of the extremities, is worst at the peripheral ends of the nerves, is as a rule, unattended with rectal or vesical disturbance, and the knee-jerks and the general myotatic irritability of the affected parts are abolished, and the muscles of the trunk are not involved; so that there is no difficulty in excluding multiple neuritis.

We come now to lesions of the cord or its membranes. Of lesions of the cords we have a number. There is a condition of po-

liomyelitis, or affection of the anterior horns of the cord. Inflammation of the anterior horns of the cord give rise to paralysis, great muscular wasting, marked electrical changes, loss of the deep reflexes, but bed sores do not form, and there is no affection of the sphincters of the bladder and bowels, and sensation is unimpaired. We can exclude poliomyelitis.

Can we exclude lateral sclerosis? The disease from which this woman is suffering is of a chronic nature, so is lateral sclerosis. In both myotatic irritability is pronounced, and knee-jerk and ankle clonus are well marked. But in lateral sclerosis, bed sores do not form, the bladder and bowels are comparatively infrequently affected, sensation is not involved, the muscles of the legs are paretic but not paralyzed. The inability of the patient to walk when sclerosis of the lateral columns is very far advanced is due to a spastic condition of the extensor muscles of the legs rather than to their paralysis. In the patient before us there was absolute paralysis of the leg muscles for a number of months, a deep bed sore formed, sensation was abolished and the sphincters of the bladder and anus were paralyzed. At the time that I first saw the patient, a little more than three years ago, she was suffering from considerable pain in the lower portion of the back, and the pain radiated in the course of the nerves coming off from the dorso-lumbar region of the cord. All the symptoms at that time could be accounted for by the presence of meningitis, but nearly a year later the legs became completely paralyzed, with absolute paralysis of the sphincters of the bladder and anus and great trophic disturbances developed, showing that the cord, as well as its membranes, was involved in the inflammatory process. We have a condition here of what is known as meningo-myelitis, that is meningitis and myelitis combined. If it had been a case of simple chronic myelitis from the first there would have been but little pain in the spine, but she had considerable spinal pain at one time. In myelitis pain in the back may be slight, or entirely absent. It is probable that the inflammatory trouble began in the meninges, and extended to the cord either from contiguity of structure, or as a result of pressure on the cord

from a thickened condition of the membranes. Whether the trouble began in the pia or the dura, it is impossible to say. Taking it for granted that we have a condition of meningo-myelitis, what is its nature? It is most probably syphilitic in character. The virus of chronic syphilis, or the organisms caused by syphilitic infection seem to be peculiarly irritating to the connective tissues of the body, and especially, to that of the central nervous system. The poison of syphilis may apparently lie latent for years, and show no evidence of its presence until the person sustains some mental or physical shock; it may be worry, excitement, severe or prostrating illness, or a traumatism, when, suddenly it manifests itself, in the brain or cord most likely, although no tissues of the body are exempt from its ravages. Usually the seat of the injury has considerable determining influence on the local manifestation of the disease. In our patient the blow on the head seemed to light up some brain trouble years before the spinal difficulty began, and the latter never became manifest until she sustained some injuries to the back. In such a case as the one before us we should expect to find some bone disease which had given rise to meningitis and cord symptoms, but this has been repeatedly and carefully examined for, and always found absent. The symptoms of chronic meningo-myelitis are motor, sensory, reflex and trophic, and differ in the early stage of the disease according to whether the cord or meningeal lesion has been the primary one. In the vast majority of cases of this kind the meningeal inflammation precedes, and to a certain extent, causes the cord trouble by pressure. In our patient the meningitis antedated the myelitis. In such cases the early symptoms are those of the meningitis, such as pain in the back, increased by any movements, voluntary or passive, that stretch the nerves coming through the inflamed membranes. The pain radiates in the course of the irritated spinal nerves. The skin is at first hyperesthetic, but later areas of anesthesia develop. Paralysis does not come on early in meningitis, neither is it absolute when it does make its appearance. There is paresis of groups of muscles supplied by the affected nerves. Paralysis of the sphincters of the bladder and rectum and

general anesthesia do not occur from chronic meningitis until myelitis is manifest. The extensive paralysis, both of sensation and motion of the case under consideration, was due to the cord lesion. The marked trophic disturbance, seen in this case, at one period of the history, was a result of myelitis rather than of meningitis. The great myotatic irritability as evidenced by ankle clonus and increased knee-jerk are due to cord trouble. The symptoms of myelitis are modified by the region of the cord involved. In disease of the cervical and extreme upper dorsal regions the arms are affected and the heart's action and respiratory function may be involved, and the reflexes below the lesion are increased, those on a level with the cord lesion being abolished. When the lesion is in the lumbar region the reflexes in the legs, especially the knee-jerks, are absent. From the symptoms which our patient presents we can locate the trouble in the lower dorsal region.

What is the prognosis in a case of chronic myelitis, such as we have here? The prognosis in such a case depends upon the severity of the lesion and whether the patient responds to treatment or not. Chronic syphilitic meningo-myelitis is much more amenable to treatment than cases of chronic myelitis due to exposure, or causes of this character, provided irreparable degenerative changes have not taken place in the cord before treatment is instituted. If a patient has been paralyzed for months, or even for a year, we should not say, if the lesion is in the dorsal region, that the case is hopeless; for there are cases where paralysis has existed for years, and almost complete recovery has taken place.

When I brought the patient before the class last year she could not move a muscle of the legs; now she can move both legs at the same time. It was about two months from the time that she could move one leg while sitting, before the nervous impulse was sufficient to cause synchronous action of the legs. Now she can stand and even walk some when she has assistance. The case seemed hopeless when she was brought into the hospital, but the steady improvement from that time leads me to believe that in time she may be able to walk without assistance. The exaggerated knee-jerk with ankle clonus is not usually very promising, but these are less than they were a year ago. But always remember in these cases that you need time. This is essential if you expect to accomplish much for your patient. A case cannot recover in weeks or months, but it takes years. If the destructive lesion of the cord has been very

great, you cannot get complete recovery. Often there will be a tendency to staggering, and the reflexes will be more or less increased, and chronic ascending and descending degenerations are likely to take place.

In all these cases rest is essential. It is when a person is on his feet that the spinal cord is most taxed in trying to maintain the equilibrium of the body. Rest in bed should not be continuous, but if the patient is able, he should have a chance to go out in the air, either in a rolling chair or in an easy carriage. The very best food should be insisted upon.

Early in the case if there is any possibility of the disease having a syphilitic origin, give anti-syphilitic remedies. If the initial lesion of syphilis dates back twelve or fifteen years, then potassium iodide should be mainly depended upon, although mercury may do good. If, as in the present case, the syphilitic infection extends back only four or five years, use a combination of mercury and potassium iodide. In the use of potassium iodide, you must be guided by the effect of the medicine and the tolerance for it, rather than by the size of the dose. Begin with five or ten grains thrice daily, well diluted, administered after taking food, and increase the dose five grains each day. When the salt begins to disagree with the patient, stop it for a few days, until the stomach and bowels resume their normal conditions, then begin again with the dose which you had reached when you were compelled to discontinue its administration. By a little patience and perseverance, both on the part of the persons and physician, you will find the majority of patients are able to tolerate large quantities of the drug, and in some, the effect is most gratifying. I am in the habit in these cases when I wish to give mercury of using corrosive sublimate, and in beginning with one-twentieth or one-sixteenth of a grain at a dose, administered after taking food.

Arsenic, quinine, iron and phosphorous are the best tonics, but I am in the habit of relying upon arsenic, given in small doses, more than upon any of the other agents just mentioned.

Electricity, when there is great myotatic irritability, as in the present case, does more harm than good. Massage, however, especially rubbing, gives the patient comfort and probably does good in lessening muscular contractures.
